

# Arizona's Renewable Energy Standard

*Arizona Solar NOW! Symposium*

Commissioner Kris Mayes  
Arizona Corporation Commission

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# What is the Arizona Corporation Commission?

- The Commission was established upon statehood in 1912, as a Constitutional authority.
- The framers established the Commission as a separate, popularly-elected branch of state government.
- Originally made up of 3 commissioners; expanded by popular vote to 5 commissioners in 2000.
- Arizona voters have protected the independence of the Commission--especially its provisions regarding election of commissioners--from constitutional amendment on numerous occasions.
- The Commission has constitutional authority to regulate public utilities, corporate filings, securities, and railroad and pipeline safety.
- The commission regulates 16 electric utilities, 7 natural gas utilities and over 350 private water and sewer utilities.



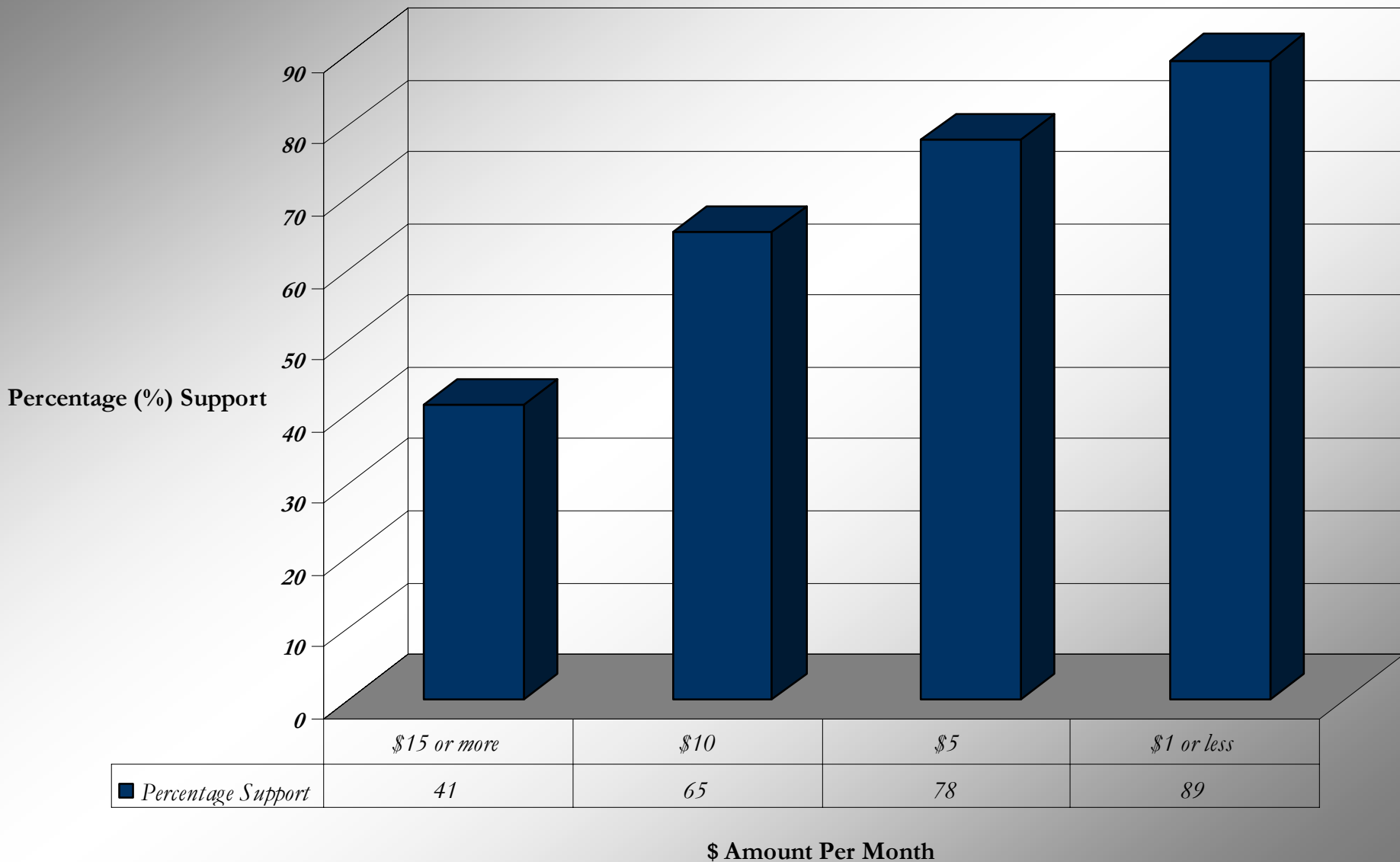


# Renewable Energy in Arizona

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- Arizona was one of the first states in the nation to implement a renewable requirement for its electric utilities.
- Arizona's Environmental Portfolio Standard was initiated in 2001 to promote the use and development of renewable energy.
- In October, 2006, the Commission approved the Renewable Energy Standard, which builds upon the EPS and will once again make Arizona a leader in renewable energy, particularly solar.
- The RES rules were certified by Arizona's Attorney General on June 15, 2007 and went into effect on August 14, 2007.

# Arizonans Support Renewable Energy





# The RES: The Power of Distributed Generation

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- The RES rules require regulated utilities to generate 15% of their energy from renewable resources by 2025.
- These rules do not have a dedicated solar set-aside, rather it has a specific set-aside for distributed generation.
- The RES allows utilities to use solar, wind, biomass, biogas, geothermal and other similar technologies to generate “clean” energy to power Arizona’s future. The rules package outlines what technologies qualify and allow for new and emerging technologies to be added as they become feasible.



# RES Percentage Requirement

Year	Requirement
2008	1.75 %
2009	2.00 %
2010	2.50 %
2011	3.00 %
2012	3.50 %
2013	4.00 %
2014	4.50 %
2015	5.00 %
2016	6.00 %

Year	Requirement
2017	7.00 %
2018	8.00 %
2019	9.00 %
2020	10.00 %
2021	11.00 %
2022	12.00 %
2023	13.00 %
2024	14.00 %
After 2024	15.00 %



# Funding for the RES

- The new RES features a sample tariff designed to pay for the expansion of the program.
- The monthly charge would be the lesser of \$0.004988 per kWh or
  - Residential Customers: \$1.05/month
  - Small Business: \$39.00/month
  - Large Industrial: \$117.00/month
- Utilities will be required to file these tariffs yearly with the Commission



# Distributed Renewable Energy Requirement

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2007 – 5%

2008 – 10%

2009 – 15%

2010 – 20%

2011 – 25%

After 2011 – 30%

- Requirement that a utility shall meet half of this requirement from commercial projects and half from residential projects.



# Solar Incentives: Set-Asides in 11 States (and D.C.), Credit Multiplier in 1 Additional State

**WA: 2x multiplier for DG**

**NH: 0.3% solar electric by 2014**

**NV: 1% solar by 2015**  
2.4x multiplier for central PV  
2.45x multiplier for distributed PV

**NY: 0.1542% customer-sited DG by 2013**

**NJ: 2.12% solar electric by 2021**

**PA: 0.5% PV by 2020**

**DE: 2.005% PV by 2019**  
3x multiplier for PV installed before 2015

**MD: 2% solar electric by 2022**

**DC: 0.386% solar electric by 2021**  
1.1x multiplier for solar 2007-09

**AZ: 4.5% customer-sited DG by 2025**  
(half from residential)

**CO: 0.8% solar electric by 2020**  
(half from customer-sited projects)  
1.25x multiplier for in-state projects  
3x multiplier for co-ops and munis for solar installed before July 2015

**NC: 0.2% solar by 2018**

**NM: 4% solar electric by 2020,  
0.6% DG by 2015**

 **Set-aside**

 **Set-aside with multiplier**

 **Multiplier**

Solar thermal heating: counts towards RPS in HI, NV, AZ, TX, IL, PA, NH, DE, NC, and against solar/DG set-asides in AZ, NV, NC

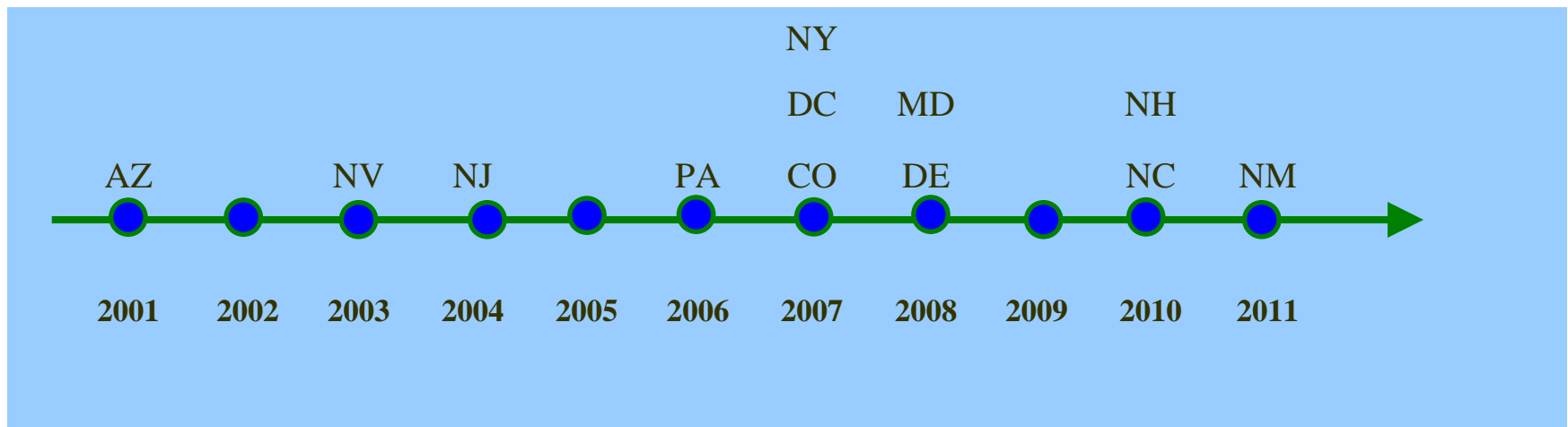


# Development of State RPS Set-Asides: Experience Remains Limited

Only three states have had more than two years of experience with a solar/DG set-aside so far:

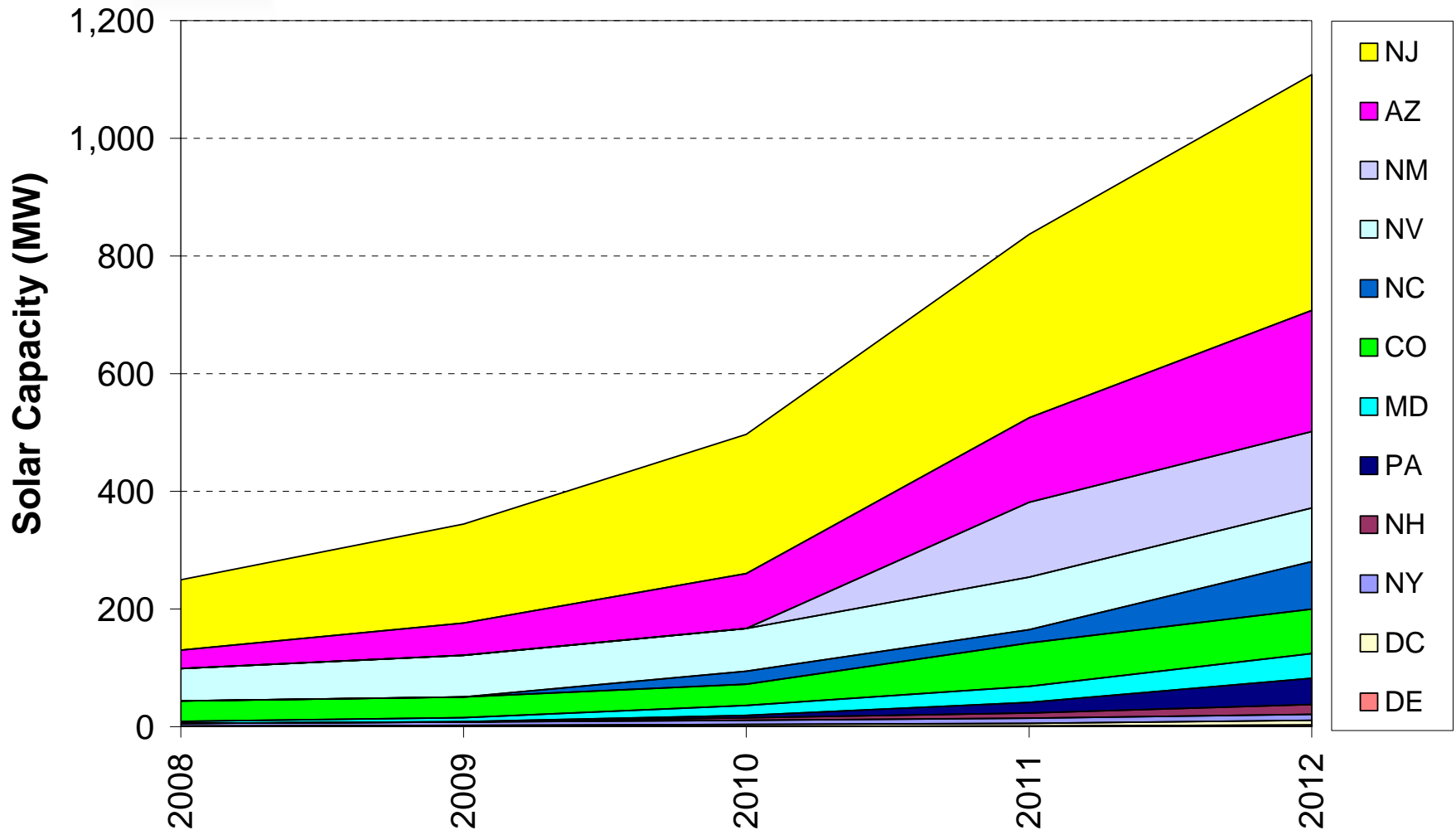
- Arizona
- Nevada
- New Jersey

## First Compliance Year of State RPS Set-Asides





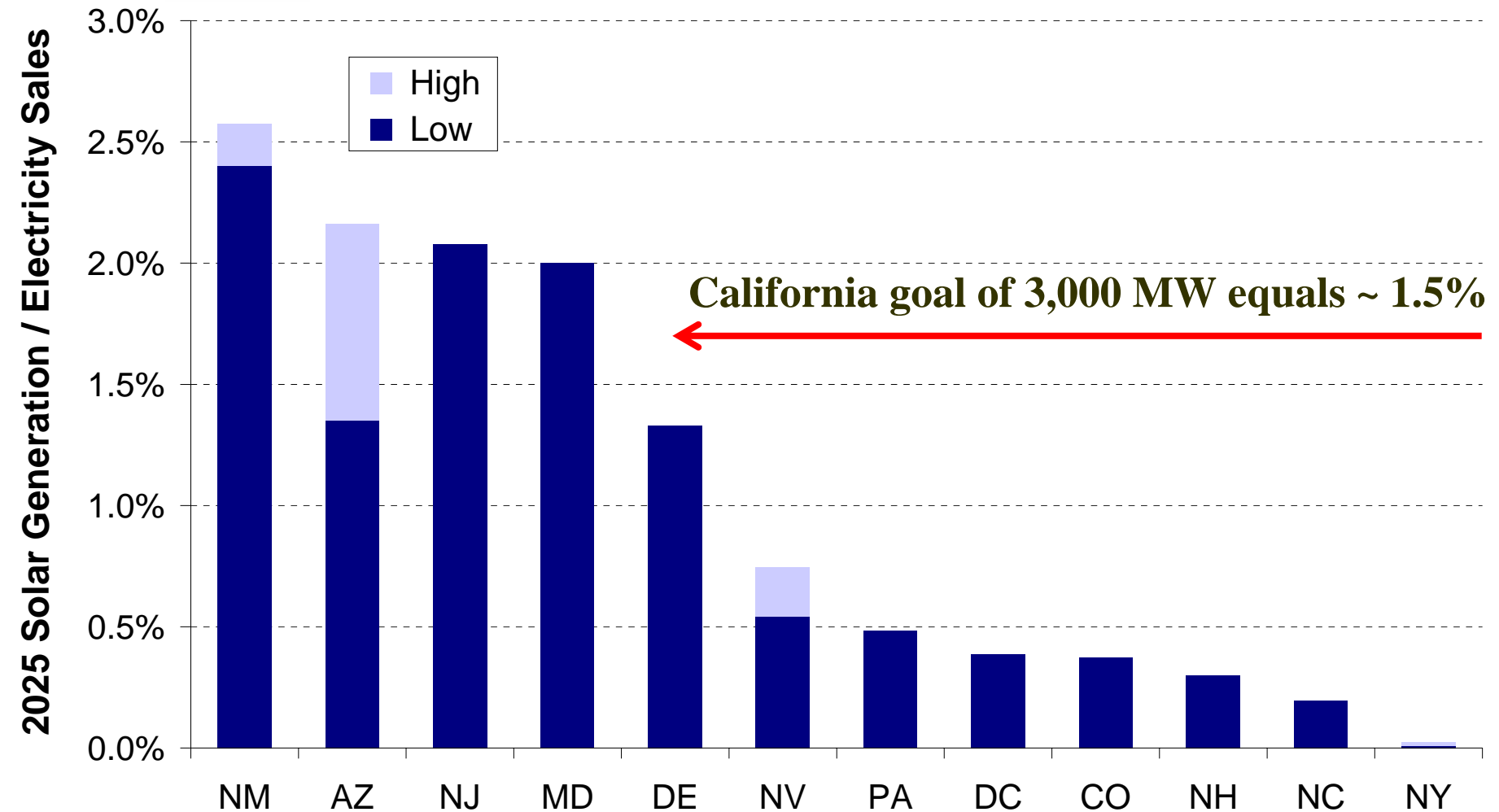
# Largest RPS Markets for Solar in Near-Term Include NJ, AZ, NM, NV, NC, CO



Slide Courtesy of Lawrence Berkeley National Laboratory



# Most Aggressive States, in Required Solar as a % of Sales, Include NM, AZ, NJ, MD



Slide Courtesy of Lawrence Berkeley National Laboratory



# Taking Advantage of Renewable Energy

- Individuals, businesses, schools, municipalities can all take advantage of RES funding from regulated utilities
- In order to meet the ambitious goals of the RES, thousands of distributed energy systems will need to be installed by customers
- The Commission has commenced a rulemaking process to implement net metering for customers.
  - Net Metering is a method by which customers are credited for electricity which they generate in excess of their own electricity consumption.





# Looking Ahead

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- In 2006, 150 TEP customers installed solar PV, and 275 APS customers installed solar PV.
- Statewide, Arizona will need to install over 3,000 3 kW systems next year to meet the RES goals.
- This number increases to:
  - 4,200 in 2009
  - 5,500 in 2010
  - 9,100 in 2011
  - 12,000 by 2012



# Performance Based Incentives

- Commercial customers who want to install solar on their buildings do not get an up-front lump sum payment from the utility; rather, they now qualify for Performance Based Incentives (“PBI”).
- Under PBI’s the utility will pay commercial customers based on the actual energy produced.
- For example, last week, the ACC approved an agreement between Frito Lay and APS where APS will pay a performance-based rebate of \$0.25 per kWh generated.
- Payments from the utility are typically made quarterly.



# Next Steps

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1. Timely Approval of RES Implementation Plans.
2. Approval of a Net Metering Standard.
3. Work with homebuilders and developers to incorporate renewable energy into new buildings.
4. Extension of Federal and State tax credits for renewable energy.



# Conclusion

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**Arizona Corporation Commission documents  
and orders can be found by visiting**

**[www.azcc.gov](http://www.azcc.gov)**

**Information on Arizona's Renewable Energy  
Standard can be found by visiting**

**[www.azcc.gov/divisions/util/electric/environmental.htm](http://www.azcc.gov/divisions/util/electric/environmental.htm)**

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